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8.20.4 C-A Propane Cylinder Handling and Recycling

Hand Processed Changes

DateInitials

Approved: _____ *Signature on File*
Collider-Accelerator Department Chairman

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8.20.4 C-A Propane Cylinder Handling and Recycling

1. Purpose

To establish a policy and requirements for handling and disposing of used cylinders of propane, propylene, mapp, and calibration gas in a manner that minimizes the risk to the user, to others, and to the environment. This procedure applies to handling and disposal of all empty cylinders, or those with **ONLY** residual pressure, generated within the C-A Department and their programs.

2. Responsibilities

- 2.1 The Environmental Coordinator, or designee, shall be authorized to operate the ProSolv Propane Cylinder Recycling System.
- 2.2 The Environmental Coordinator, shall inspect and control access to the Propane Cylinder Recycling System SAA, to ensure proper handling and of cylinders.

3. Prerequisites

- 3.1 Authorized operators of the Propane Cylinder Recycling System shall be trained in this procedure.
- 3.2 Post the [Satellite Accumulation Area Basic Rules Sign](#) near container and label the container with a "[Hazardous Waste Label](#)".

4. Precautions

- 4.1 No radioactive materials are to be brought to the propane cylinder can recycling SAA.
- 4.2 **DO NOT** attempt to devalve cylinders with other than residual propane pressure (follow manufacturers instructions as contained in this procedure to evaluate cylinder pressure).
- 4.3 **DO NOT** use the propane cylinder recycling system while smoking or when open flame is present.
- 4.4 **DO NOT** operate ProSolv unit near spark-producing equipment.
- 4.5 **DO NOT** vent Oxygen Bottles with the ProSolv unit. An Oxygen Bottle vented with the ProSolv unit would create an oxygen enriched environment which could support spontaneous combustion.
- 4.6 **DO NOT** operate the ProSolv without the Activated carbon Filter attached.
- 4.7 **DO NOT** store unvented cylinders at a temperature above 120 degrees F.

- 4.8 Use caution when operating the ProSolv system as contents of Propane, Propylene and Mapp gas fuel cylinders are extremely flammable.
- 4.9 Operate ProSolv system in a well ventilated area.
- 4.10 Wear safety goggles while operating system.
- 4.11 Ensure anti-static wire is properly grounded to devalving system.
- 4.12 Replace activated carbon cartridge after every 40 cylinders devalved.

5. **Procedure**

- 5.1 Thread fuel cylinder completely into the bottom opening of ProSolv, allowing top handle to rise freely.
- 5.2 Briefly press Gauge Activation Button to determine fuel content of cylinder.
- 5.3 If the gauge registers in the **RED** area fuel cylinder should **not** be emptied at this time. Remove cylinder and put back into service.
- 5.4 If gauge registers in **GREEN** area, press Activation Button to fully vent remaining propellant to -0- psi.
- 5.5 Depress upper handle to penetrate nylon sealing sleeve of propane cylinder.
- 5.6 Lift upper handle to remove nylon sleeve, and **depress again** to contact internal valve stem, rotating Knob counterclockwise eight revolutions (8) to remove valve stem.
- 5.7 Remove propane cylinder from ProSolv unit. Once removed, invert cylinder. Valve stem will drop out. Disengage nylon sealing sleeve by lifting upper handle.

Note:

For old/worn cylinders: If the nylon sealing sleeve is not removed during the ProSolv operation, the internal valve will not drop out. Remove cylinder from ProSolv unit and place Sleeve Removal Tool over mouth of cylinder. Follow instructions using sleeve removal tool and then repeat steps 1 – 7.

- 5.8 Insert steel Recycling Certification Tag into fuel cylinder to indicate that valve stem is removed and cylinder is empty.

6. **Documentation**

- 6.1 None

7. References

- 7.1 [SBMS Subject Area “ Hazardous Waste Management”](#).
- 7.2 [C-A-OPM 8.20 “Procedure for Handling and Disposal of Hazardous Waste”](#).
- 7.3 ProSolv Propane Cylinder Recycling System Operator Instructions

8. Attachments

None